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%
% Lecture Sat March 13th, 2010
% remember always to document your code using useful comments. Also
% whenever in doubt use the command "help" to find the correct syntax and
% usage of Matlab codes.

%
% Refer to the examples given in the slides

clear all % clear all variables in work space.

%
% Example: plotting cosine/sine wave
A = 1; % define the amplitude
T = 1; % define the period
t = -2:0.1:2; % define the time axis
s_1 = A*cos(2*pi/T*t); % define first function
s_2 = A*sin(2*pi/T*t); % define second function

figure(1);
plot(t, s_1, '-b', t, s_2, '--r');
xlabel('time (seconds)');
ylabel('amplitude');
title('plot for two functions');
legend('cosine wave', 'sine wave');
grid;

figure(2); % note the use of ".*" or ".^" - these are element-wise
           % operators
plot(t, s_1.*s_1, '-b', t, sqrt(abs(s_2)), '--r');
xlabel('time (seconds)');
ylabel('amplitude');
title('plot for two functions');

```